REMARKS

The Examiner's Action mailed on December 6, 2006 has been received and its contents carefully considered.

In this Amendment, Applicants have amended claims 2 and 8. Claims 2 and 8 are the independent claims. Claims 2-14 remain pending in the application. For at least the following reasons, it is submitted that this application is in condition for allowance.

The Examiner has rejected claims 2-14 under 35 U.S.C. 103(a) as being unpatentable over the combination of *Fleming* (US 2002/0055134A1) in view of *Levenberg* (US 2005/0031598). Claims 2 and 8 have been amended. It is submitted that these amended claims are *prima facie* patentably distinguishable over these references for at least the following reasons.

It is well-settled law that in order to properly support an obviousness rejection under 35 U.S.C. §103, there must have been some teaching in the prior art to suggest to one skilled in the art that the claimed invention would have been obvious, W. L. Gore & Associates, Inc. v. Garlock Thomas, Inc., 721 F.2d 1540, 1551 (Fed. Cir. 1983).

Amended independent claim 2 is directed to a method of water analysis in a semiconductor manufacturing process for detecting a presence of microorganisms in a water sample, comprising: providing a membrane as a filter; filtering out the microorganisms in the water sample, using the membrane; growing the microorganisms on the membrane with a nutrient solution; staining the microorganisms on the

membrane with potassium permanganate ($KMnO_4$); rinsing the membrane with purified deionized water; and performing a colony count for microorganisms on the membrane.

Amended independent claim 8 is directed to a method of water analysis in a semiconductor manufacturing process for separately detecting a presence of microorganisms in a plurality of water samples, comprising the steps of: providing a plurality of membranes as filters; filtering out the microorganisms in each of the water samples, using a corresponding one of the membranes, separately; growing the microorganisms on different membranes with a nutrient solution for different times; staining the microorganisms on each of the membranes with potassium permanganate ($KMnO_4$); rinsing each of the membranes with purified deionized water; and performing a colony count for microorganisms on each of the membranes.

The claimed invention provides a method used in the semiconductor manufacturing process for quickly and accurately detecting the presence of microorganisms in a water sample. In the claimed invention, the microorganisms are grown on the membrane with a nutrient solution to increase the number of microorganisms in a short time; then, the microorganisms are stained with potassium permanganate ($KMnO_4$). The number of microorganisms can be **quickly grown and increased in number in a short time** with the nutrient solution, so that it is much easier to perform a colony count for microorganisms after being stained with potassium permanganate. Accordingly, the claimed invention provides a method for efficiently (i.e. quickly and accurately) identifying the presence of microorganisms in a water sample during the semiconductor manufacturing processes. Successful water analysis helps

in monitoring and controlling the quality of deionized water used in cleaning the wafer so that the accuracy and precision of the semiconductor products can be well controlled (please see para. [0002]).

The Examiner states that the cited reference *Fleming* (US 2002/0055134A1) teaches filtering samples through a membrane to collect cells to be counted, and that *Levenberg* (US 2005/0031598) teaches cells being stained with potassium permanganate. The Examiner further states that the claimed method is directed to counting colonies on a membrane and the function of the water analysis newly added to the preamble of claim 2 is given no weight. However, *Fleming* (US 2002/0055134A1) neither discloses or suggests that the microorganisms are stained with potassium permanganate ($KMnO_4$), nor does this reference disclose or suggest that the microorganisms are grown on the membrane with a nutrient solution. Also, *Levenberg* (US 2005/0031598) discloses a method of embryonic stem cell differentiation. The potassium permanganate of *Levenberg* is used to stain the RA-conditioned constructs in vivo and in vitro. However, *Levenberg* neither discloses nor suggests that the microorganisms are grown on the membrane with a nutrient solution for increasing the number, nor does this reference disclose or suggest the steps for efficiently detecting the presence of microorganisms in a water sample, as recited in the claimed method.

Further, the claimed method must be considered in its entirety, rather than in a piece-meal manner. The cited references, *Fleming* and *Levenberg*, neither disclose nor suggest any step for detecting the water purity in a semiconductor manufacturing process, as recited in Applicants' claimed invention (ex: rapidly and accurately identify

microorganisms after 24 hours incubation by growing with the nutrient solution, followed by staining with $KMnO_4$, please see Table 1). According to MPEP 2143.02, the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Accordingly, *Fleming* and *Levenberg* are in irrelevant arts, and do not teach or suggest to the persons of ordinary skill in the semiconductor art how to efficiently solve the problem solved by Applicants' claimed invention, and the reference teachings could not be combined or modified to produce the claimed invention (*In re linter*, 458 F. 2d 1013, 1016, 173 USPQ 560,562 (CCPA 1972); *In re Kotzab*, 217 F, 3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000)). Thus, there is nothing in any of the cited references as a whole to suggest the desirability of the combination, and there is no suggestion to combine these references to arrive at the claimed invention. It is thus not obvious to make such a combination.

It is therefore submitted that the amended independent claims 2 and 8 *prima facie* patentably distinguish over the prior arts, and claims 3-7 and 9-14 are allowable for at least the reason that they depend from claims 2 and 8, so that this application is deemed clearly to be in condition for allowance. Allowance of the application and the passing of this case to issue are therefore respectfully requested.

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, the Examiner is hereby invited to telephone the undersigned counsel to arrange for such a conference.

Should any fee be required, the Director is hereby authorized to charge the fee to our Deposit Account No. 18-0002, and please advise us accordingly.

Respectfully submitted,

February 21, 2007
Date

Robert H. Berdo, Jr. - Reg. No. 38,075
RABIN & BERDO, PC - Cust. No. 23995
Telephone: (202) 371-8976
Fax: (202) 408-0924

RHB/vm